Check for updates



Angiology
2017, Vol. 68(3) 271-272
© The Author(s) 2016
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0003319716665045
journals.sagepub.com/home/ang
SAGE

# Disease Duration and Inflammation in Psoriasis

**Çağri Yayla, MD[1], Kadriye Gayretli Yayla, MD[2], Sefa Ünal, MD[1], Burak Açar, MD[1], Ahmet Goktuğ Ertem, MD[1], Mehmet Kadri Akboga, MD[1], and Özgür Kirbaş, MD[1]**

We read with interest the article by Solak et al entitled "Impact of Elevated Serum Uric Acid Levels on Systemic Inflammation in Patients With Psoriasis."[1] They found that the neutrophil to lymphocyte ratio (NLR) and C-reactive protein are independent predictors of Psoriasis Area and Severity Index score.

Inflammation is an important factor in the pathogenesis of several diseases such as coronary artery disease, diabetes mellitus, hypertension, obesity, hyperlipidemia, and psoriasis.[2,3] Psoriasis is a chronic inflammatory skin disease that affects approximately 2% to 3% of the general population.[4] It has been shown that psoriasis is associated with an increased cardiovascular (CV) risk.[5] Patients with psoriasis are more susceptible to several CV risk factors (hypertension, obesity, dyslipidemia, and smoking), noncardiac vascular diseases (peripheral artery disease and chronic kidney disease), and metabolic comorbidities (diabetes mellitus, metabolic syndrome, and obstructive sleep apnea) compared with the general population.[6]

Previous studies showed that the presence of severe psoriasis was related to approximately 60% increased risk of CV mortality[7] and that CV risk was especially high in younger patients (age <60 years) with severe disease (patients with a diagnostic code of psoriasis and history of systemic therapy consistent with severe psoriasis).[7,8]

The NLR is a ratio of 2 different supplementary immune pathways, thus integrating the detrimental effects of neutrophils, which are responsible for active nonspecific inflammation and lymphopenia, which is a marker of poor general heath and physiological stress.[9] Furthermore, the NLR was independently associated with adverse CV outcomes.[10] The authors[1] excluded patients on corticosteroids, thiazide-type diuretics, or allopurinol and those with active infection or overt cancer. However, they did not mention any information about patients with CV disease that increases the NLR (eg, severe valvular heart disease, coronary artery disease, heart failure, and peripheral artery disease).[10]

Is there any correlation between the disease duration and NLR or serum uric acid levels? The evidence that disease duration affects the inflammation burden of psoriasis is contradictory. Eder et al did not show any association between disease duration and atherosclerosis in patients with psoriasis.[11] In contrast, Shaharyar et al found a relationship between disease duration and subclinical atherosclerotic markers.[12]

## References

1. Solak B, Sevimli Dikicier B, Erdem T. Impact of elevated serum uric acid levels on systemic inflammation in patients with psoriasis. *Angiology*. 2017;68(3):266-270.
2. Balta S, Celik T, Mikhailidis DP, et al. The relation between atherosclerosis and the neutrophil-lymphocyte ratio. *Clin Appl Thromb Hemost*. 2016;22(5):405-411.
3. Yiu KH, Yeung CK, Zhao CT, et al. Prevalence and extent of subclinical atherosclerosis in patients with psoriasis. *J Intern Med*. 2013;273(3):273-282.
4. Griffiths CE, Barker JN. Pathogenesis and clinical features of psoriasis. *Lancet*. 2007;370(9583):263-271.
5. Wakkee M, Thio HB, Prens EP, Sijbrands EJ, Neumann HA. Unfavorable cardiovascular risk profiles in untreated and treated psoriasis patients. *Atherosclerosis*. 2007;190(1):1-9.
6. Katsiki N, Anagnostis P, Athyros VG, Karagiannis A, Mikhailidis DP. Psoriasis and vascular risk: an update. *Curr Pharm Des*. 2014;20(39):6114-6125.
7. Mehta NN, Azfar RS, Shin DB, Neimann AL, Troxel AB, Gelfand JM. Patients with severe psoriasis are at increased risk of cardiovascular mortality: cohort study using the General Practice Research Database. *Eur Heart J*. 2010;31(8):1000-1006.
8. Brauchli YB, Jick SS, Miret M, Meier CR. Psoriasis and risk of incident myocardial infarction, stroke or transient ischaemic attack: an inception cohort study with a nested case-control analysis. *Br J Dermatol*. 2009;160(5):1048-1056.

[1] Department of Cardiology, Turkiye Yuksek Ihtisas Training and Research Hospital, Ankara, Turkey
[2] Department of Cardiology, Diskapi Yildirim Beyazit Training and Research Hospital, Ankara, Turkey

**Corresponding Author:**
Çağri Yayla, Turkiye Yuksek Ihtisas Training and Research Hospital, Cardiology Clinic, Ankara, Turkey.
Email: cagriyayla@gmail.com

9. Azab B, Zaher M, Weiserbs KF, et al. Usefulness of neutrophil to lymphocyte ratio in predicting short- and long-term mortality after non-ST-elevation myocardial infarction. *Am J Cardiol*. 2010;106(4):470-476.
10. Horne BD, Anderson JL, John JM, et al; Intermountain Heart Collaborative Study Group. Which white blood cell subtypes predict increased cardiovascular risk? *J Am Coll Cardiol*. 2005; 45(10):1638-1643.
11. Eder L, Thavaneswaran A, Chandran V, Cook R, Gladman DD. Increased burden of inflammation over time is associated with the extent of atherosclerotic plaques in patients with psoriatic arthritis. *Ann Rheum Dis*. 2015;74(10): 1830-1835.
12. Shaharyar S, Warraich H, McEvoy JW, et al. Subclinical cardiovascular disease in plaque psoriasis: association or causal link? *Atherosclerosis*. 2014;232(1):72-78.